USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Plant Guide

PRAIRIE SANDREED
Calamovilfa longifolia (Hook.) Scribn.

Plant Symbol = CALO

Contributed by: USDA NRCS North Dakota Plant Materials Center, Bismarck, North Dakota

Alternate Names
Prairie sandgrass, big sandgrass

Uses
Grazing/rangeland/hayland: The forage value is considered fair to good for cattle and horses, and fair value for sheep during its first two months of growth, and after it cures on the stem for fall and winter grazing. Crude protein content is about 16 percent in May and drops to 4 percent by November. Although crude protein levels are low in the fall and winter, available carbohydrates increase from 45 percent in May to 55 percent in November. Prairie sandreed is usually considered a decreaser with grazing pressure, but will initially increase under heavy grazing use, especially if growing within a big bluestem/sand bluestem plant community. Prairie sandreed generally is seeded as part of a native mix for range seedings on sandy sites.

Wildlife Value: Prairie sandreed provides fair forage for grazing and browsing wildlife in early spring and early summer. The plant becomes more important in late fall and winter as the plant cures well on the stem and provides upright and accessible forage. Little evidence is available on wildlife use of the seed. Seed is most likely used by songbirds and small rodents.

Erosion Control: Prairie sandreed has an extensive, fibrous root system with very strong spreading rhizomes making it an excellent species for stabilization of sandy sites.

Status
Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

Description
General: Prairie sandreed is a drought tolerant warm-season perennial grass found on sandy sites. Stems arise singly from strong scaley rhizomes and reach a height of 2 to 5 feet. The inflorescence is a narrow panicle of erect branches, pale green or tan, smooth, and 6 to 18 inches long. Spikelets are 1-flowered; florets have a basal ring of white hairs half the length of the lemma. Each culm has 10 to 12 course leaves, with rigid, flat to in-rolled blades 15 to 24 inches long, tapering to a fine point.

Distribution: For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Habitat: Prairie sandreed is native from Manitoba to Quebec, Canada and south to Idaho, Colorado, Kansas, and Indiana. It is commonly found growing on sandy and other coarse textured soils of sand hills, sand dunes, sandy prairies, and open woods.

Adaptation
It is often observed growing in patches or forming colonies on sites where it is adapted. It requires well drained soils and is not tolerant to flooding. It will grow on soils that are somewhat alkaline, but is not

tolerant to salt. It is best adapted to sandy areas receiving greater than 12 inches of precipitation. Severe leaf and stem rust can be a problem when western selections are moved eastward.

Establishment
Prairie sandreed is recommended for use in seeding mixes in sandy areas receiving more than 12 inches of precipitation. Seed should be planted at a depth of 1 inch on coarse textured soils and ½ inch or less on medium to fine textured soils. The seedbed should be free of weeds and firmly packed. Seed of prairie sandreed will usually germinate in 28 days. Seedlings are slow in developing and seedling vigor is rated as fair. Stands establish slowly and may require two to three years to fully develop a stand. Prairie sandreed has approximately 275,000 seeds/ pound. Seeding rates will vary by region so contact your local NRCS Field Office for seeding rate recommendations for your area. Processing also varies and some vendors clean the seed down to bare caryopsis. This will influence seeding rates. Seeding rates (debearded) for the Dakotas range from 4 PLS lbs/acre in the west to 5 PLS lbs/acre in the east.

Management
Prairie sandreed on native rangeland is usually found as a component with several other native species. It is usually part of a native mix when planted. A proper grazing management plan including grazing rotations will benefit forage production and provide optimum nutritional quality of prairie sandreed. Prairie sandreed also responds positively to prescribed spring burns. Production potential is high. Data collected at Pierre, SD reported prairie sandreed (ND-95) clipping 5,279 lbs/acre of herbage as compared to 5,953 lbs/acre for big bluestem (variety 'Bison') on the same site.

Pests and Potential Problems
Prairie sandreed is susceptible to leaf and stem rust. It is more prevalent with higher rainfall and humidity. Seed origin influences potential pest problems. Seed sources from the Great Plains are susceptible to rust when moved eastward.

Environmental Concerns
Prairie sandreed does not pose any known negative concerns to the environment. It can form dense colonies on coarse soils where it is well adapted. This attribute is often looked at as a positive trait for increased ground cover reducing both wind and water erosion on these sites.

Seeds and Plant Production
Seed yields range from 50 to 500 lbs/acre under irrigation and range from 50 to 150 lbs/acre under dryland production. Seed harvesting generally takes place in late September. Combining is the preferred harvest method during the hard dough to mature seed stage. It is recommended that it be planted in 24 to 36 inch rows for seed production. Seed of prairie sandreed should be planted using a drill. Prairie sandreed is a warm-season grass and should be planted when soil temperatures reach 50 degrees. A planting date around the first of May in the Dakotas is recommended for the best chance to establish a stand.

Cultivars, Improved, and Selected Materials (and area of origin)
Contact your local Natural Resources Conservation Service (formerly Soil Conservation Service) office for more information. Look in the phone book under "United States Government." The Natural Resources Conservation Service will be listed under the subheading "Department of Agriculture."

'Goshen' was selected by the USDA-NRCS Plant Materials Center at Bridger, MT. In 1976, it was cooperatively released by the USDA-NRCS Plant Materials Center, Bridger, MT, and the Montana and Wyoming Agricultural Experiment Stations. Goshen is a leafy ecotype with excellent seed production. It is drought tolerant and somewhat rhizomatous. It is well adapted to sandy sites receiving more than 12 inches of annual precipitation. It is recommended for eastern Montana, eastern Wyoming, western Nebraska, and northeast Colorado.

'Pronghorn' is a selection of four accessions at the USDA-NRCS Plant Materials Center, Manhattan, KS, and the Agriculture Research Service, Lincoln, NE. It was cooperatively released in 1988 by ARS, NRCS and the Nebraska Agriculture Extension Service. Pronghorn has a broad genetic base that has a high degree of rust tolerance. It is adapted to and recommended for use in revegetating sandy sites in the Nebraska Sandhills and northwest Kansas.

ND-95 (Bowman) was selected at the USDA-NRCS Plant Materials Center, Bismarck, ND. ND-95 is an informal release of materials collected in 1956 from southwestern North Dakota (Bowman County). Seed production is average for the species. Forage production is comparable to Goshen, in the northern U.S., but ND-95 has shown to be better in parts of Canada. Its dense wiry root mass makes it well adapted for stabilizing sandy soils.

References

Johnson, J.R. and G.E. Larson. 1999. *Grassland plants of South Dakota and the Northern Great Plains.* South Dakota State University College of Agriculture and Biological Sciences B566 (rev.) Brookings, SD.

Craig, D., K. Sedivec, D. Tober, I. Russell, and T. Faller. 2002. *Nutrient composition of selected warm-season grasses: Preliminary Report.* USDA NRCS, Bismarck, ND.

Hitchcock, A.S. 1951 *Manual of the grasses of the United States*. USDA, Washington, DC.

Alderson, J. and W. C. Sharp. 1994. *Grass varieties in the United States*. Agriculture Handbook No. 170. USDA, SCS, Washington, D.C.

Prepared By and Species Coordinator:

Wayne Duckwitz, USDA-NRCS Plant Materials Center, Bismarck, ND

Edited: 27March2006LJG; 24mar2006jsp

For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site<http://plants.usda.gov> or the Plant Materials Program Web site <http://Plant-Materials.nrcs.usda.gov>